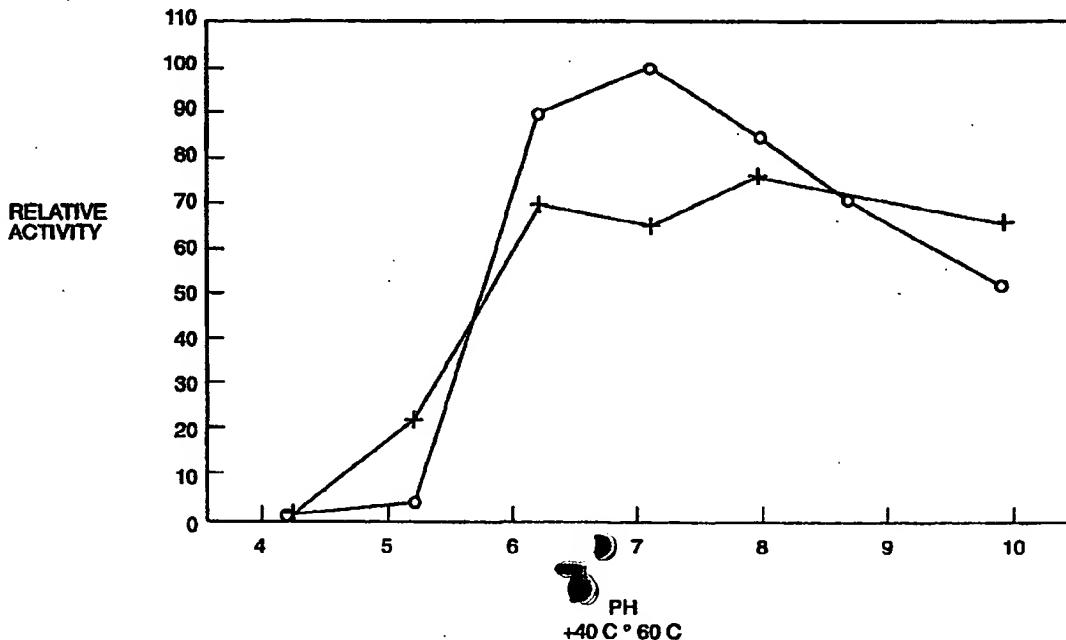




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C12N 9/42, C11D 3/386	A3	(11) International Publication Number: WO 96/34092 (43) International Publication Date: 31 October 1996 (31.10.96)
(21) International Application Number: PCT/EP96/01755		(74) Agent: BRANDES, Jürgen; Wuesthoff & Wuesthoff, Schweigerstrasse 2, D-81541 München (DE).
(22) International Filing Date: 26 April 1996 (26.04.96)		
(30) Priority Data: 95201115.3 28 April 1995 (28.04.95) EP (34) Countries for which the regional or international application was filed: AT et al. 614,115 12 March 1996 (12.03.96) US		(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).
(71) Applicant (for all designated States except US): GENENCOR INTERNATIONAL, INC. [US/US]; 4 Cambridge Place, 1870 South Winton Road, Rochester, NY 14618 (US).		
(72) Inventors; and		
(75) Inventors/Applicants (for US only): LENTING, Hermanus, Bernardus, Maria [NL/NL]; Hunze 5, NL-2641 VT Pijnacker (NL). VAN BECKHOVEN, Rudolf, Franciscus, Wilhelmus, Cornelis [NL/NL]; Hofwijkstraat 69, NL-4334 EK Breda (NL). MAURER, Karl-Heinz [DE/DE]; Dechenstrasse 5, D-40699 Erkrath (DE). KOTTWITZ, Beatrix [DE/DE]; Urdenbacher Allee 51, D-40593 Düsseldorf (DE). WEISS, Albrecht [DE/DE]; Forellenweg 37, D-40764 Langenfeld (DE). VAN SOLINGEN, Pieter [NL/NL]; Rossini 16, NL-2671 VZ Naaldwijk (NL).		

(54) Title: DETERGENTS COMPRISING CELLULASES



(57) Abstract

The present invention discloses detergents comprising an enzyme having cellulolytic activity with a ratio of tensile strength loss to antipilling properties below 1.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AM	Armenia	GB	United Kingdom	MW	Malawi
AT	Austria	GR	Georgia	MX	Mexico
AU	Australia	GN	Guinea	NE	Niger
BB	Barbados	GR	Greece	NL	Netherlands
BE	Belgium	HU	Hungary	NO	Norway
BF	Burkina Faso	IE	Ireland	NZ	New Zealand
BG	Bulgaria	IT	Italy	PL	Poland
BJ	Benin	JP	Japan	PT	Portugal
BR	Brazil	KE	Kenya	RO	Romania
BY	Belarus	KG	Kyrgyzstan	RU	Russian Federation
CA	Canada	KP	Democratic People's Republic of Korea	SD	Sudan
CF	Central African Republic	KR	Republic of Korea	SE	Sweden
CG	Congo	KZ	Kazakhstan	SG	Singapore
CH	Switzerland	LI	Liechtenstein	SI	Slovenia
CI	Côte d'Ivoire	LK	Sri Lanka	SK	Slovakia
CM	Cameroon	LR	Liberia	SN	Senegal
CN	China	LT	Lithuania	SZ	Swaziland
CS	Czechoslovakia	LU	Luxembourg	TD	Chad
CZ	Czech Republic	LV	Latvia	TG	Togo
DE	Germany	MC	Monaco	TJ	Tajikistan
DK	Denmark	MD	Republic of Moldova	TT	Trinidad and Tobago
EE	Estonia	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	UG	Uganda
FI	Finland	MN	Mongolia	US	United States of America
FR	France	MR	Mauritania	UZ	Uzbekistan
GA	Gabon			VN	Viet Nam

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 96/01755

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C12N9/42 C11D3/386

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 C12N C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO,A,95 02675 (NOVO NORDISK A/S) 26 January 1995 cited in the application see page 3, line 15 - line 37 see page 15, line 36 - page 16, line 21 see page 17, line 21 - line 34 see page 20, line 19 - page 21, line 32; example 11 ---	1-13
A	EP,A,0 271 004 (KAO CORPORATION) 15 June 1988 see page 5, paragraph 2 - page 6, paragraph 3 see page 9, paragraph 2 ---	1-13
A	EP,A,0 636 740 (MEIJI SEIKA KABUSHIKI KAISHA) 1 February 1995 see page 3, line 16 - line 26 ---	1-13
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- 'A' document defining the general state of the art which is not considered to be of particular relevance
- 'E' earlier document but published on or after the international filing date
- 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- 'O' document referring to an oral disclosure, use, exhibition or other means
- 'P' document published prior to the international filing date but later than the priority date claimed

- 'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- 'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- '&' document member of the same patent family

Date of actual completion of the international search

16 January 1997

Date of mailing of the international search report

24.01.97

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentiaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Montero Lopez, B

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 96/01755

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>JOURNAL OF BACTERIOLOGY, vol. 168, no. 2, November 1986, pages 479-485, XP000600247 FUMIYASU FUKUMORI ET AL.: "Nucleotide sequences of two cellulase genes from alkalophilic <i>Bacillus</i> sp. strain N-4 and their strong homology" cited in the application see abstract see figure 2</p> <p>-----</p>	1,9-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 96/01755

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO-A-9502675	26-01-95	AU-A-	7069294	13-02-95
		BR-A-	9407066	12-03-96
		CN-A-	1129011	14-08-96
		CZ-A-	9600110	12-06-96
		EP-A-	0708819	01-05-96
		FI-A-	960132	11-03-96
<hr/>				
EP-A-271004	15-06-88	DE-A-	3785551	27-05-93
		HK-A-	38194	29-04-94
		JP-B-	4043119	15-07-92
		JP-A-	63264699	01-11-88
		SG-A-	35294	08-07-94
		US-A-	4822516	18-04-89
		US-A-	4978470	18-12-90
<hr/>				
EP-A-636740	01-02-95	CN-A-	1102531	10-05-95
		WO-A-	9419527	01-09-94
<hr/>				